

Title (en)
Differential sense amplifier without switch transistors

Title (de)
Differenzialleseverstärker ohne Schalttransistoren

Title (fr)
Amplificateur de détection différentiel sans transistors de commutation

Publication
EP 2518728 A1 20121031 (EN)

Application
EP 12162184 A 20120329

Priority
FR 1153575 A 20110426

Abstract (en)
A differential sense amplifier for sensing data stored in a plurality of memory cells (C) of a memory cell array, including: - a first CMOS inverter having an output connected to a first bit line (BL) and an input connected to a second bit line (/BL) complementary to the first bit line, - a second CMOS inverter having an output connected to the second bit line (/BL) and an input connected to the first bit line (BL), each CMOS inverter comprising a pull-up transistor (M21, M22) and a pull-down transistor (M31, M32), wherein the sources of the pull-up transistors (M21, M22) or pull-down transistors (M31, M32) are electrically coupled and connected to a pull-up voltage source or a pull-down voltage source, without an intermediate transistor between the sources of the transistors and the voltage source.

IPC 8 full level
G11C 7/06 (2006.01); **G11C 7/12** (2006.01); **G11C 11/4091** (2006.01); **G11C 11/4094** (2006.01)

CPC (source: EP KR US)
G11C 7/065 (2013.01 - EP KR US); **G11C 7/12** (2013.01 - EP KR US); **G11C 11/4091** (2013.01 - EP KR US);
G11C 11/4094 (2013.01 - EP KR US); **G11C 2207/002** (2013.01 - KR); **G11C 2211/4016** (2013.01 - EP KR US)

Citation (search report)
• [XAYI] US 2007153601 A1 20070705 - SAVIGNAC DOMINIQUE [DE], et al
• [Y] US 5646900 A 19970708 - TSUKUDE MASAKI [JP], et al
• [Y] US 2005264322 A1 20051201 - NAKAZATO TAKAAKI [US], et al

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
EP 2518728 A1 20121031; CN 102760472 A 20121031; CN 102760472 B 20151125; FR 2974667 A1 20121102; FR 2974667 B1 20201002;
JP 2012230755 A 20121122; JP 5453485 B2 20140326; KR 101475706 B1 20141223; KR 20120121367 A 20121105; SG 185223 A1 20121129;
TW 201308332 A 20130216; TW I512727 B 20151211; US 2012275252 A1 20121101; US 9135964 B2 20150915

DOCDB simple family (application)
EP 12162184 A 20120329; CN 201210124228 A 20120425; FR 1153575 A 20110426; JP 2012101067 A 20120426;
KR 20120043461 A 20120425; SG 2012028197 A 20120418; TW 101113586 A 20120417; US 201213456020 A 20120425